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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,912	01/17/2002	Yong-Jun Lim	Q67327	3408
7590 02/23/2006 SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, NW Washington, DC 20037-3213			EXAMINER SHAW, PELING ANDY	
			ART UNIT 2144	PAPER NUMBER

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,912

Applicant(s)

LIM, YONG-JUN

Examiner

Peling A. Shaw

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,10,14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment received on 11/14/2005 has been entered. Claims 14-15 are new.
2. Amendment received on 03/15/2005 has been entered. Claims 1, 4, 7 and 9 are currently amended. Claims 2-3, 5-6 and 10 are original. Claims 8 and 11-13 are canceled.
3. Claims 1-7, 9-10 and 14-15 are presented for examination.

Priority

4. This application claims a priority # Republic of Korea 2001-38804 on 06/30/2001. The filing date is 01/17/2002.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-7, 9-10 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by

Nelson, et al., (US 5568641 A), hereinafter referred as Nelson.

- a. Regarding claim 1, Nelson disclosed (in abstract, lines 6-14 and 18-20, column 1, line 36-45; column 2, lines 22-40, Fig. 1A and Fig. 2; column 4, lines 18-30) a network device (system) capable of upgrading software through a network, comprising:
monitoring means for monitoring at least one failure of the network device while the software is being upgraded (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not.); a first memory for storing data necessary for operating the network device (boot block); a second memory for storing information transferred through the network (new firmware downloaded and copied); a controller for performing control to store the information, which is downloaded through the network to upgrade the software, in the second memory, and store an old version of the software in an empty area of the first memory before the old version of the software stored in the first memory is upgraded with the information stored in the second memory (processor); and a decoder for selecting either the first memory or the second memory, which is used for upgrading the software, according to a control signal received from the controller and a result of monitoring received from the monitoring means, and setting an address (DECODE and NVMEMBIT, XOR, ADDRESS LINES).
- b. Regarding claim 2, Nelson disclosed (Fig. 1A; column 2, lines 22-49) the network device of claim 1, wherein the controller provides a control signal to the decoder to copy the old version of the software to the empty area of the first memory (alternate boot block), erase the old version of the software stored in an original area of the first

- memory (primary boot block), and copy the information stored in the second memory (new firmware) to the original area of the first memory (primary boot block).
- c. Regarding claim 3, Nelson disclosed (column 2, line 33-37; column 4, lines 18-30) the network device of claim 1, wherein the monitoring means monitors whether at least one failure occurs in a network device such as a power failure or hang-up of the network device (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not.).
- d. Regarding claim 5, Nelson disclosed (Fig. 1A; column 2, lines 15-19 and 23-28; column 4, lines 18-30) the network device of claim 1, wherein when the decoder receives a signal, indicating that at least one failure (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not) has occurred, from the monitoring means while the software is being upgraded, the decoder returns to the initial state of the network device (alternate boot block).
- e. Regarding claim 6, Nelson disclosed (column 2, lines 15-19 and 23-28; column 4, lines 18-30) the network device of claim 5, wherein when at least one failure occurs while the old version of the software is being upgraded, after the old version of the software is copied to the empty area of the first memory, the decoder operates so that the network device can be restarted (NVMEEMBIT, XOR) based on the old version of the software (alternate boot block containing the old primary boot information).
- f. Regarding claim 7, Nelson disclosed (in abstract, lines 6-14 and 18-20, column 1, line 36-45; column 2, lines 22-40, Fig. 1A and Fig. 2; column 4, lines 18-30) a network

device (system) capable of upgrading software through a network, comprising:

monitoring means for monitoring whether at least one failure of the network device occurs while the software is being upgraded (Processor 20 is capable of these functions so that it can determine the status of a firmware upgrade and whether the upgrade was disrupted or not.); a first memory for storing first data necessary for operating the network device (primary boot block); a second memory for storing second data necessary for operating the network device (alternate boot block); a third memory for storing information transferred through the network (new firmware downloaded); a controller for performing control to store information, which is downloaded through the network to upgrade the software, in the third memory, and store a copy of an old version of the software in an empty area of the second memory before the old version of the software stored in the first memory is upgraded to the information stored in the third memory (processor); and a decoder for selecting one of the first memory, the second memory, and the third memory, which is used for upgrading the software, according to a control signal received from the controller and the result of monitoring received from the monitoring means, and setting an address (DECODE and NVMEMBIT, XOR, ADDRESS LINES).

- g. Claim 9 is of the same scope as claims 1 and 7. It is rejected for the same reasons as for claims 1 and 7.
- h. Regarding claim 10, Nelson disclosed (column 1, lines 45-57) the method of claim 9, wherein the at least one failure is a failure in the network device which is checked

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during the erasing and storing steps (considerations of power failure or other disruptions).

- i. Regarding claim 14, Nelson disclosed (column 3, lines 23-34) the network device of claim 1, wherein said second memory is a separate unit from said first memory (bank of separately addressable EEPROM devices).
- j. Regarding claim 15, Nelson disclosed (column 3, line 23-34) the network device of claim 7, wherein said second memory is a separate unit from said first memory (bank of separately addressable EEPROM devices).

Nelson disclosed all limitations of claims 1-3, 5-7, 9-10 and 14-15. Claims 1-3, 5-7, 9-10 and 14-15 are rejected under 35 U.S.C. 102(b).

6. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(a) as being anticipated by MITSUI, HITOSHI, (JP 2001117780 A), hereinafter referred as MITSUI.

- a. Regarding claim 1, MITSUI disclosed (in abstract, line 1-10) a network device (information storage device) capable of upgrading software, comprising monitoring means (accident due to update), a first memory (first flash PROM0), a second memory (second flash PROM1), a controller (information storage device), and a decoder (storage device).
- b. Regarding claim 4, MITSUI disclosed (in abstract, line 1-10) the further monitoring means on failure in the network (download method).
- c. Regarding claim 5, MITSUI disclosed (in abstract, line 1-10) the decoder and monitoring means detects one failure (accident due to download) and returns to the initial state (read from flash PROM0) of the network device.

- d. Regarding claim 6, MITSUI disclosed (in abstract, line 1-10) the decoder operates that the network device can be restarted (accident in a short time) based on the old version of the software (read from flash PROM0).

MITSUI disclosed all limitations of claims 1 and 4-6. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(a).

7. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by MATSUI et al., (JP 09138769 A), hereinafter referred as MATSUI.

- a. Regarding claim 1, MATSUI disclosed (in abstract, line 1-17) a network device (client) capable of upgrading software, comprising monitoring means (file judging means), a first memory (the old version in an original space on a disk), a second memory (the replacement software, the delivered software), a controller (server), and a decoder (software recovering means).
- b. Regarding claim 4, MATSUI disclosed (in abstract, line 9-10) the further monitoring means on failure in the network (the failure of delivery).
- c. Regarding claim 5, MATSUI disclosed (in abstract, line 1-10) the decoder and monitoring means detects one failure (the failure of delivery) and returns to the initial state (software recover) of the network device.
- d. Regarding claim 6, MATSUI disclosed (in abstract, line 9-17) the decoder operates that the network device can be restarted (software recovering instructing means) based on the old version of the software (return the software into the original state before delivery).

MATSUI disclosed all limitations of claims 1 and 4-6. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b).

8. Claims 1-3, 5-7 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by TAKEO, KAZUNORI, (JP 10105407 A), hereinafter referred as TAKEO.

- a. Regarding claim 1, TAKEO disclosed (in abstract, line 1-16) a network device (central processing part) capable of upgrading software, comprising monitoring means (fault monitoring part), a first memory (back-up memory and part of operation memory), a second memory (part of operation memory), a controller (autonomous program fault restoring system), and a decoder (storage part).
- b. Regarding claim 2, TAKEO disclosed (in abstract, line 6-16) the controller provides a control signal to the decoder to copy the old version of the software to the empty area of the first memory (back-up memory), erase the old version of the software stored in an original area of the first memory (operation memory), and copy the information stored in the second memory (down-load program) to the original area of the first memory (operation memory).
- c. Regarding claim 3, TAKEO disclosed (in abstract, line 4-5) monitoring means on power failure or hang-up (fault occurs due to the program).
- d. Regarding claim 5, TAKEO disclosed (in abstract, line 1-10) the decoder and monitoring means detects one failure (fault occurs due to the program) and returns to the initial state (software recover) of the network device.

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- e. Regarding claim 6, TAKEO disclosed (in abstract, line 3-5 and 10-12) the decoder operates that the network device can be restarted based on the old version of the software (transfer operation program preserved in back-up memory).
- f. Regarding claim 7, TAKEO disclosed (in abstract, line 11-33) a network device capable of upgrading software, comprising monitoring means, a first memory (part of operation memory), a second memory (back-up memory), a third memory (part of operation memory), a controller, and a decoder.
- g. Regarding claim 9, TAKEO disclosed (in abstract, line 1-11) checking one failure (fault occurs due to the program) during the upgrade, to operate according to the new software (down-loaded program is executed) or old software based upon (restarting) if a failure occurs, downloading the new version of the software through the network and storing the new version of the software in a second memory of the network device (back-up memory), copying the old version of software in a first area (part of operation memory) to a second area (preserved in a back-up memory), erasing the old software in the first area, storing the new software in the first area.
- h. Regarding claim 10, TAKEO disclosed (in abstract, line 9-13) checking (abnormality) during erasing and storing steps.

TAKEO disclosed all limitations of claims 1-3, 5-7 and 9-10. Claims 1-3, 5-7 and 9-10 are rejected under 35 U.S.C. 102(b).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson, et al., (U.S. Patent Number 5,568,641), hereinafter referred as Nelson as applied to claim 1 above, and further in view of Kurihara, Nobumasa, (JP411328040A), hereinafter referred as Kurihara.

- a. Nelson shows claim 1 as above. Nelson does not show the monitoring means on failure in the network. However, Nelson does show the consideration of both power failure and other disruption during the firmware upgrade.
- b. Kurihara shows (in abstract, line 3-5) the monitoring means on failure in the network (download fault from higher order station to base station) in an analogous art for the purpose of memory readout control.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Nelson's functions of powerfail durable flash EEPROM upgrade to include Kurihara's functions of checking download fault.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to include the network failure consideration in the download phase of firmware (or any software) upgrading per Kurihara's teaching to facilitate a better upgrade process management.

Together Nelson and Kurihara disclosed all limitations of claim 4. Claim 4 is rejected under 35 U.S.C. 103(a).

Response to Arguments

10. Applicant's arguments filed on 03/15/2005 have been fully considered, but they are not persuasive.

- a. In response to applicant's statement of "However, assuming, arguendo, Nelson discloses an upgrade involving new firmware, nowhere does Nelson even mention a second memory, constituting a network device, for storing information transferred through the network." Nelson disclosed "upgrade firmware by downloading the code to the EEPROM" (column 1, line 35-column 2, line 4) and "After the primary boot block 0 is erased 75, it is subsequently upgraded (burned and/or written to) with new boot firmware 80." (column 5, line 44-47). It proves that the new firmware information must be held in a memory place. Since the EEPROM per Nelson is intended to hold boot image per Nelson (column 5, line 58-column 6, line 61), the new firmware information must be held in a separate memory place other than in EEPROM. It is well known to a person of ordinary skill in the art at the time, a device with processor does not only have an EEPROM. It must have other memory means for processor execution.
- b. In response to applicant's statement of "decode" is not "decoder" in Fig. 1, a person of ordinary skill in the art at the time knows the box of "decode" in Fig. 1 means "decoder". It is also well known to a person of ordinary skill in the art at the time that a decoder is used to select memory and specify the address used for processor execution, including boot.

- c. In response to applicant's statement of "nowhere does Nelson mention a network device, and certainly does not mention a network device comprising the claimed monitoring means", Nelson disclosed the download and upgrade of firmware (column 1, line 35- column 2, line 4) and "After the primary boot block is erased, if a disruptive event or powerfail were to occur, the upgrade could not be completed if block 2 were not addressable as an alternate boot block by processor 20" (column 5, line 29-43).
- d. In response to applicant's statement of "Nelson does not teach copying, copy the information stored in the second memory to the original area of the first memory" as recited in claim 2.", Nelson disclosed "After the primary boot block 0 is erased 75, it is subsequently upgraded (burned and/or written to) with new boot firmware 80. Upon completion of the upgrade of the primary boot block, nvmembit 40 is reset 85 to its first (logical 0) state to cause the primary boot block to appear back in its proper address space." (Fig. 2, items 80 and 85, column 5, line 44-47).
- e. In response to applicant's statement with respect independent claims 7 and 9, section 11 above is applied. The first, second and third memories are mapped in the action.
- f. In response to applicant's statement with respect independent claim 10, Nelson disclosed "Returning again to FIG. 2, after the nvmembit is set 70, the primary boot block 0 is erased 75. After the primary boot block is erased, if a disruptive event or powerfail were to occur, the upgrade could not be completed if block 2 were not addressable as an alternate boot block by processor 20." It is also well known to a person of ordinary skill in the art at the time that a device designer would have to

consider a faulty condition, especially a powerfail or any other disruptive event, including a network fail, e.g. during download per Nelson's teaching.

- g. In response to application's statements with respect to the rejections over Jung, the request for removal of Jung as a prior art reference is noted. However, the NPL showing the original Korea application's action in regarding Jung by Korean Industrial Property Office will be kept.
 - h. In response to application's statements with respect Mitsui, Matsui and Takeo, the applied arts are read per their teaching, not word by word. The action does map the teaching to the claimed invention as above.
- 11. Applicant's arguments filed on 9/15/2005 have been fully considered, but they are not persuasive. The following remarks are added to the response to the Applicant's arguments filed on 03/15/2005.
 - a. In regarding to remarks related to Nelson: As memory in computing device, e.g. network device, if a single memory or multiple memories are used is well known up to designer's decision. As Nelson actually uses a "decode" to perform "chip select" functions, multiple memory usage is obvious. Applicant alleges that Nelson does not teach "selecting either the first memory or the second memory". As pointed above, the "decode" is pointing to "chip select" memories. Further, claims 2 and 9 of Nelson point out the selecting of a first memory. Claims 8 and 11 of Nelson point out the selecting of a second memory. As pointed out above, if a single memory or multiple memories are used is well known up to designer's decision. This is also pointed in Nelson (column 3, line 23-34). Applicant alleges that Nelson does not disclose that

such checking occurs during the erasing and storing steps. A power failure and any disruptive event could happen during the erasing and storing steps. The applicant points out the need to check during the erasing and storing steps. As it is well known that a system design needs to include faulty conditions as Nelson points out. Unless the faulty condition is totally unknown to the industry, it should be treated as well known.

- b. In regarding to remarks related to Mitsui: Applicant alleges that Mitsui does not mention “a second memory for storing information transferred through the network”, Mitsui’s abstract cites in “SOLUTION:” “In the case of download, an updating program is stored in a second flash PROM1 ...”.
- c. In regarding to remarks related to Matsui: Matsui described a software delivery form server to a client, copy the old software in an original space. This indicates a first and second memory for software delivery operation, i.e. update and recovery.
- d. In regarding to remarks related to Takeo: Takeo cites in “SOLUTION” “ A central processing part downloads an operation program 7 from a high order control stations so as to store it in a operation memory 5 ...” and “ ... and transfers the operation program 8 which is preserved in a back up memory 6 to operation memory 5 of the central processing part 1 as against a storage part 2 when abnormality is detected ...” This indicates a software downloaded and stored in a memory other than just one memory. This download is not local.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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